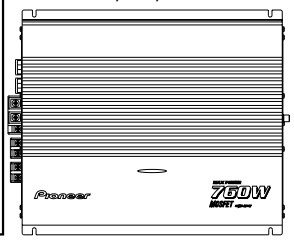
Pioneer *sound.vision.soul*

Service Manual

GM-X962/XR/ES



ORDER NO.
CRT2819

BRIDGEABLE POWER AMPLIFIER

GM-X962

XR/UC,XR/ES

GM-X862

XR/UC

CONTENTS

1. SAFETY INFORMATION 2
2. EXPLODED VIEWS AND PARTS LIST 3
3. SCHEMATIC DIAGRAM 6
4. PCB CONNECTION DIAGRAM 12
5. ELECTRICAL PARTS LIST 14
6. ADJUSTMENT 16
7. GENERAL INFORMATION 17
   7.1 DIAGNOSIS 17
      7.1.1 DISASSEMBLY 17
      7.1.2 CONNECTOR FUNCTION DESCRIPTION ...18
8. OPERATIONS AND SPECIFICATIONS 19

For details, refer to "Important symbols for good services".

PIONEER CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS (USA) INC. P.O.Box 1760, Long Beach, CA 90801-1760 U.S.A.
PIONEER EUROPE NV Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE.LTD. 253 Alexandra Road, #04-01, Singapore 159936

© **PIONEER CORPORATION 2001**

K-ZZA. DEC. 2001 Printed in Japan

[Important symbols for good services]
In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely.
When you find the procedures bearing any of the symbols, be sure to fulfill them:

1. Product safety

You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Adjustments

To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

3. Cleaning

For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

4. Shipping mode and shipping screws

To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

5. Lubricants, glues, and replacement parts

Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount.For replacement parts or tools, the prescribed ones should be used.

1. SAFETY INFORMATION

● UC model

CAUTION

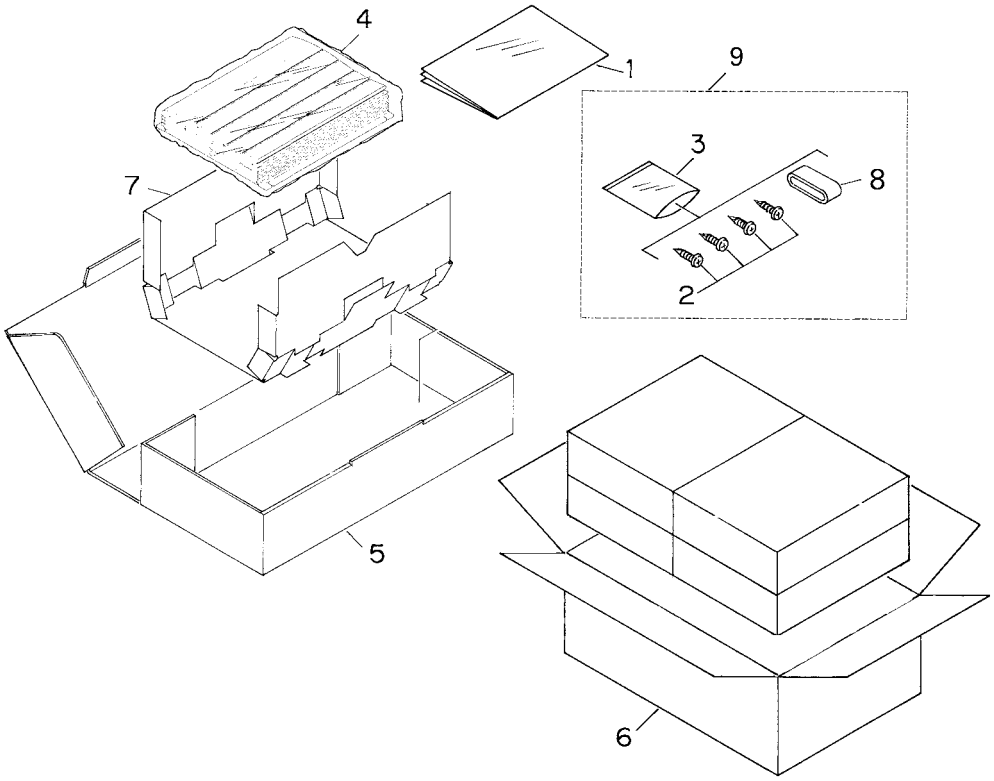
This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer.
Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty.
If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.
Health & Safety Code Section 25249.6 - Proposition 65

2. EXPLODED VIEWS AND PARTS LIST

2.1 PACKING



NOTE:

- Parts marked by "*" are generally unavailable because they are not in our Master Spare Parts List.
- Screws adjacent to ∇ mark on the product are used for disassembly.
- For the applying amount of lubricants or glue, follow the instructions in this manual.
  (In the case of no amount instructions, apply as you think it appropriate.)

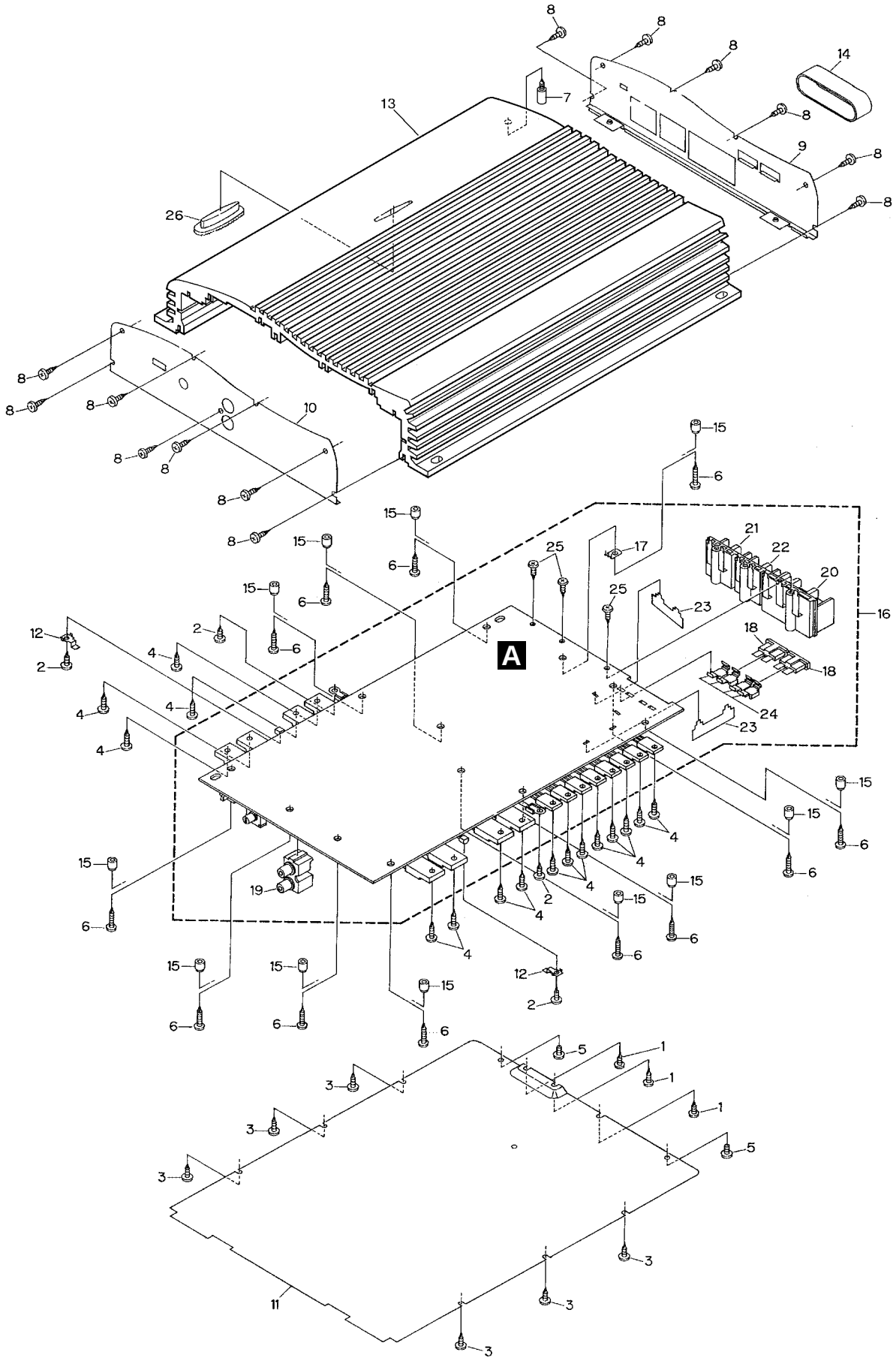
● PACKING SECTION PARTS LIST

Mark	No.	Description	Part No. GM-X962/XR/UC	Part No. GM-X962/XR/ES	Part No. GM-X862/XR/UC
*	1-1	PRC	HRY0019	Not used	HRY0019
	1-2	Owner's Manual	HRD0186	HRD0188	HRD0186
	1-3	Owner's Manual	Not used	HRD0189	Not used
*	1-4	Card	ARY1048	Not used	ARY1048
	2	Screw	BYC40P180FZK	BYC40P180FZK	BYC40P180FZK
	3	Polyethylene Bag	HEG0011	HEG0011	HEG0011
	4	Polyethylene Bag	HEG0022	HEG0022	HEG0022
	5	Carton	HHG0305	HHG0305	HHG0318
	6	Contain Box	HHL0305	HHL0305	HHL0318
	7	Protector	HHP0107	HHP0107	HHP0107
	8	Cover	HNS0101	HNS0101	HNS0101
	9	Screw Assy	HEA0058	HEA0058	HEA0058

● Owner's Manual

Model	Part No.	Language
GM-X962/XR/UC	HRD0186	English, French
GM-X962/XR/ES	HRD0188	English, Spanish
	HRD0189	Portuguese(B), Arabic
GM-X862/XR/UC	HRD0186	English, French

2.2 EXTERIOR



(1) EXTERIOR SECTION PARTS LIST

Mark No.	Description	Part No.
1	Screw	PPZ30P120FZK
2	Screw	BBZ30P050FUC
3	Screw	BBZ30P060FMC
4	Screw	BBZ30P080FMC
5	Screw	BSZ30P050FZK
6	Screw(M3x12)	CBA1323
7	Screw(M3x5)	HBA0006
8	Screw(M3x8)	HBA0011
9	Panel	See Contrast table(2)
10	Panel	See Contrast table(2)
11	Case	HNB0135
12	Holder	HNC0080
13	Heat Sink	See Contrast table(2)
14	Cover	HNS0101
15	Spacer	HNV0016
16	Amp Unit	See Contrast table(2)
17	Terminal(CN850)	CKF1059
18	Fuse(25A)	HEK0025
19	Pin Jack(CN851)	HKB0002
20	Terminal(CN853)	HKE0020
21	Terminal(CN854)	HKE0021
22	Terminal(CN855)	HKE0021
23	Buss Bar	HNC0043
24	Holder	HNC0082
25	Screw	PPZ30P100SAD
26	Light Pipe Unit	HXA0322

(2) CONTRAST TABLE

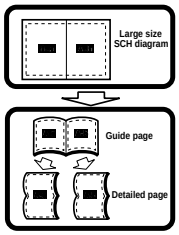
GM-X962/XR/UC, /XR/ES and GM-X862/XR/UC are constructed the same except for the following:

Mark No.	Description	Part No.		
		GM-X962/XR/UC	GM-X962/XR/ES	GM-X862/XR/UC
9	Panel	HNB0172	HNB0172	HNB0180
10	Panel	HNB0167	HNB0167	HNB0179
13	Heat Sink	HNR0207	HNR0207	HNR0213
16	Amp Unit	HWH0169	HWH0171	HWH0182

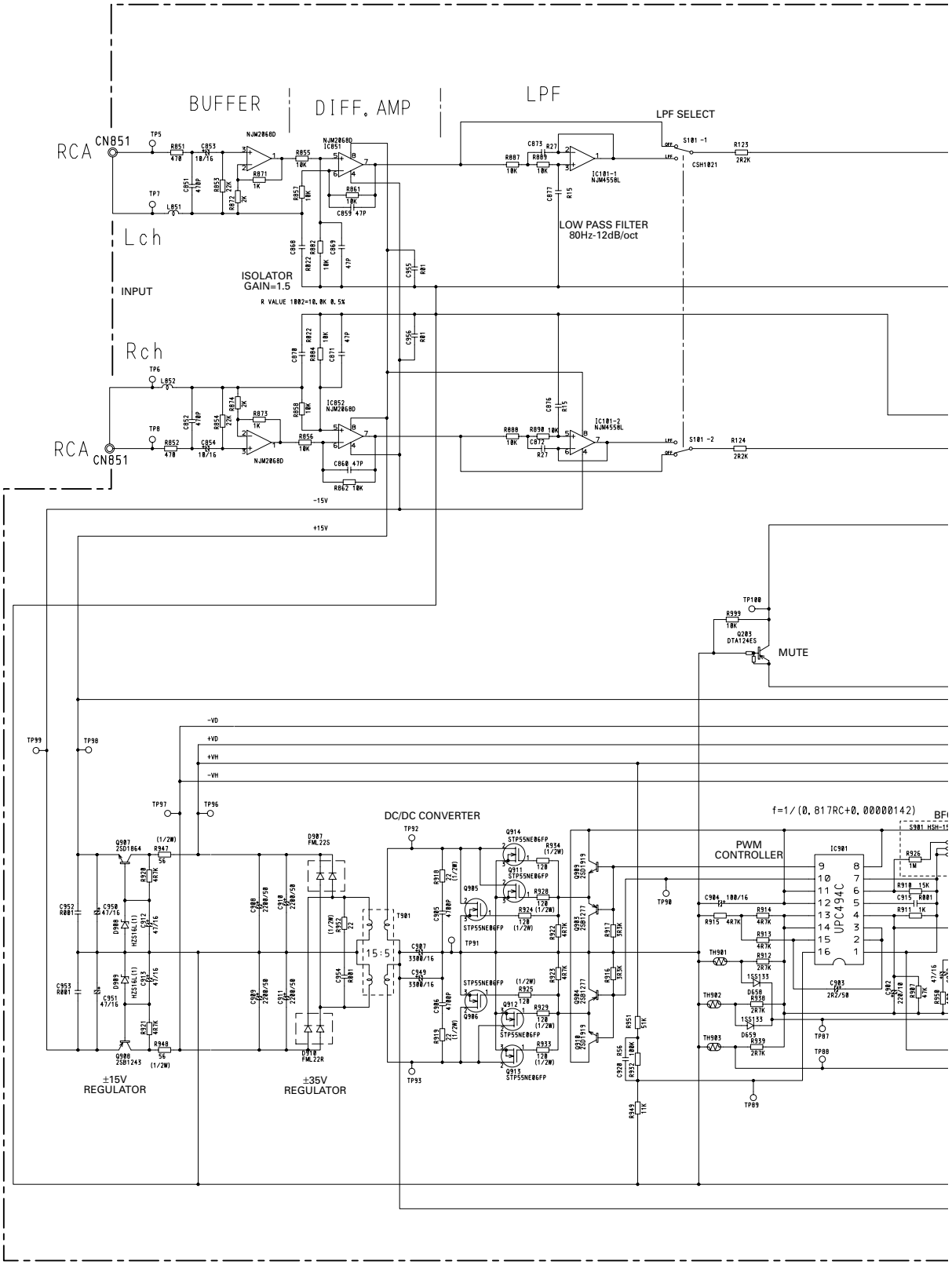
3. SCHEMATIC DIAGRAM

3.1 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".

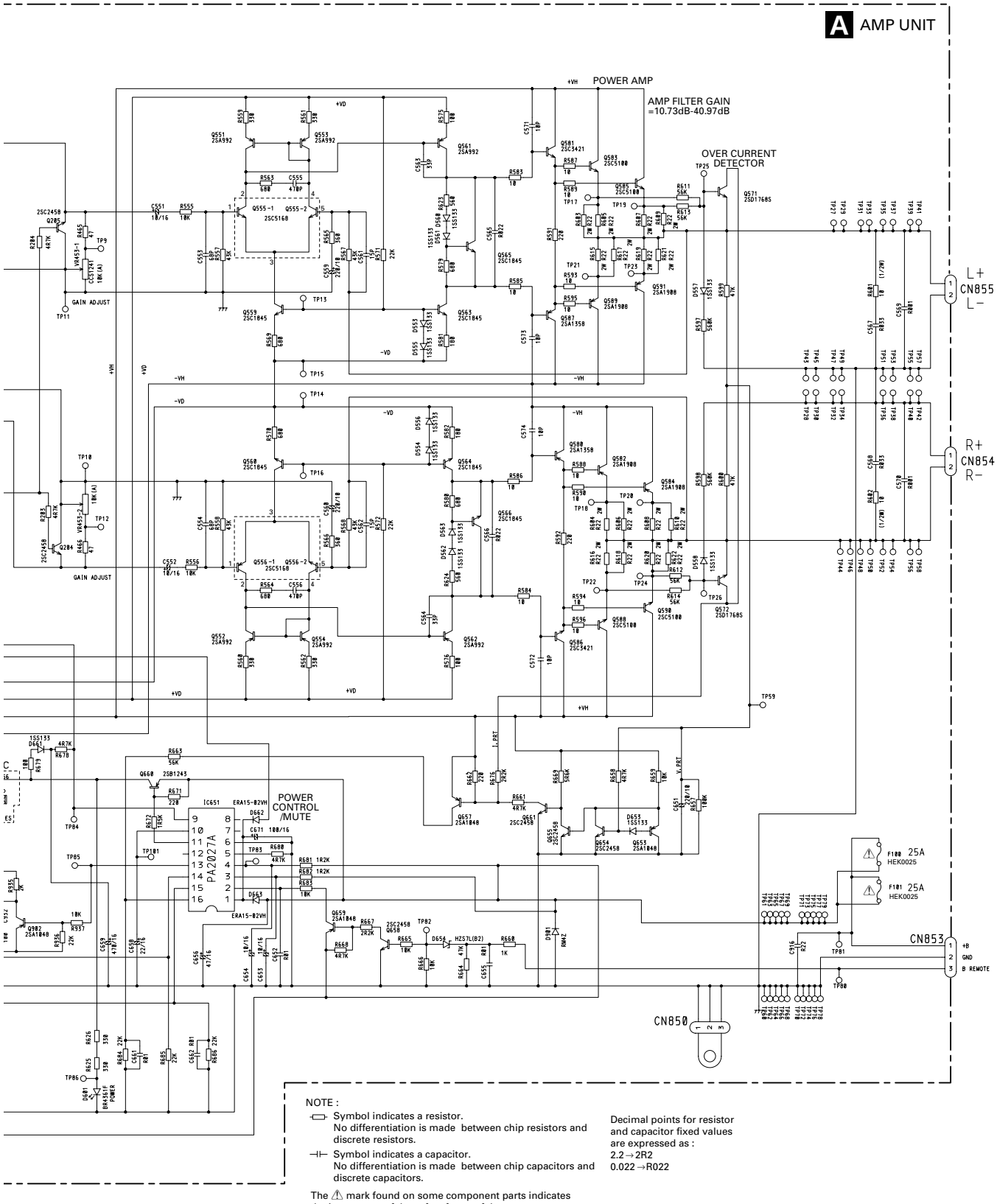


A-a



A

A-b



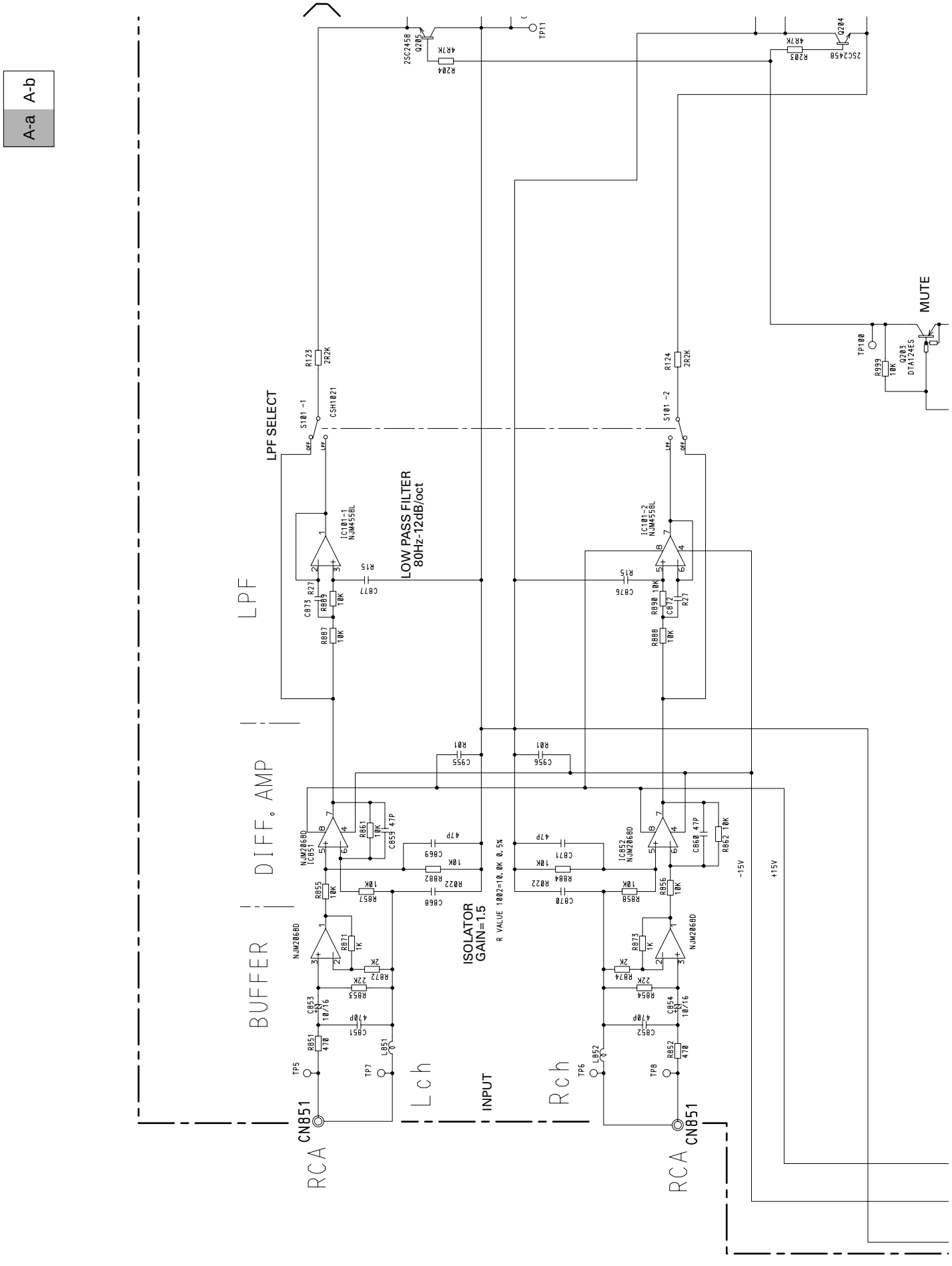
NOTE :

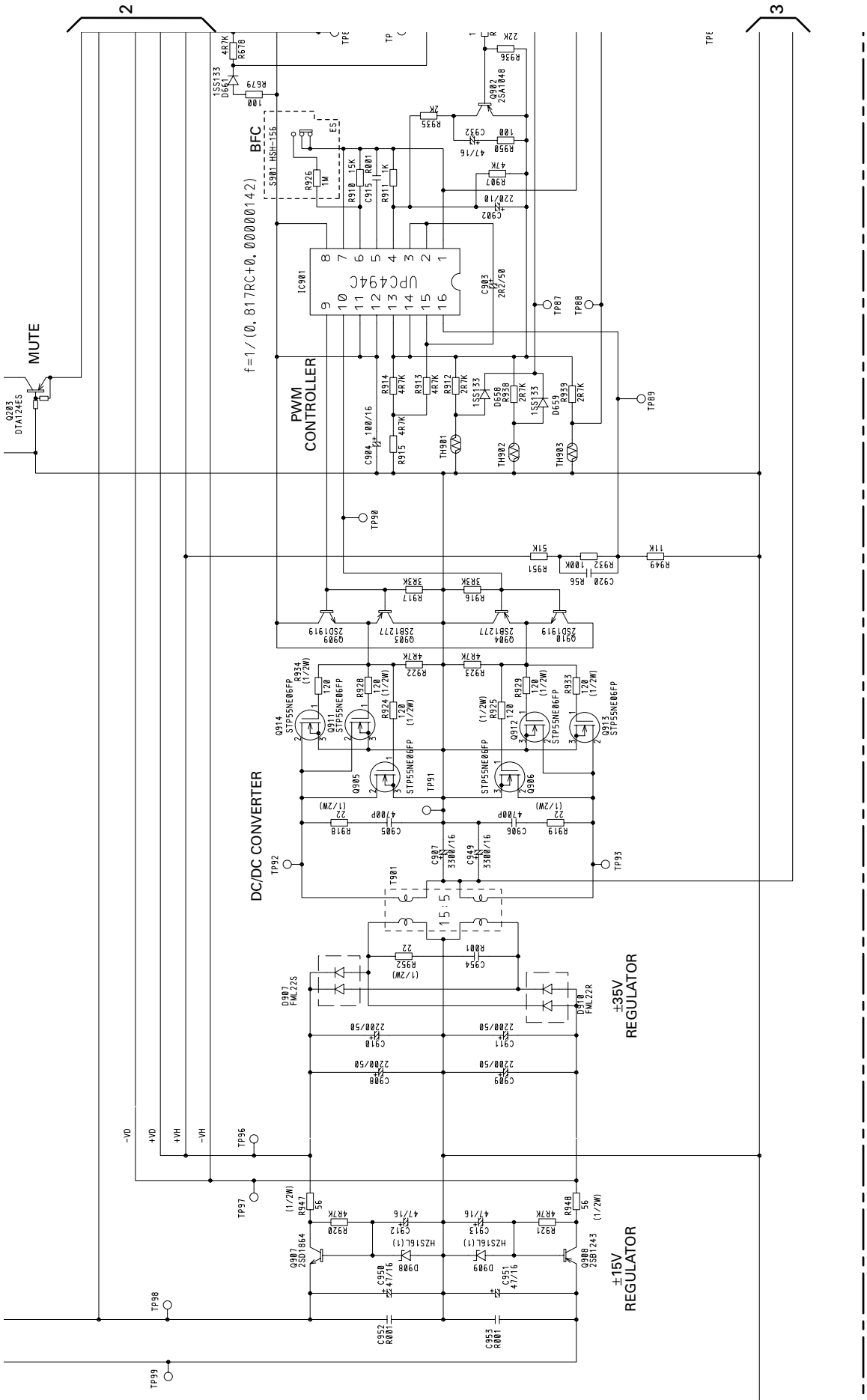
- Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
- Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.

The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

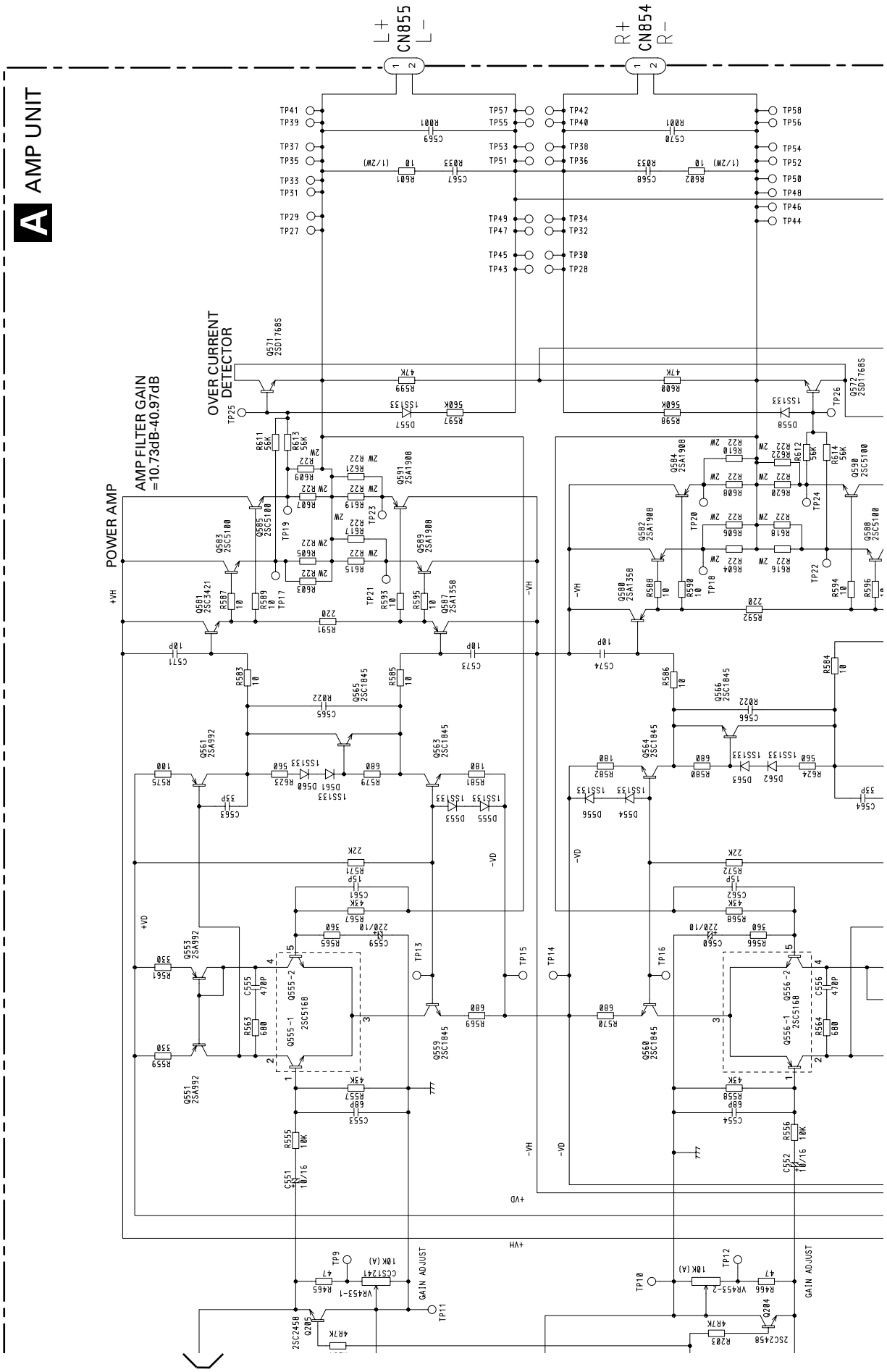
Decimal points for resistor and capacitor fixed values are expressed as :
2.2→2R2
0.022→R022

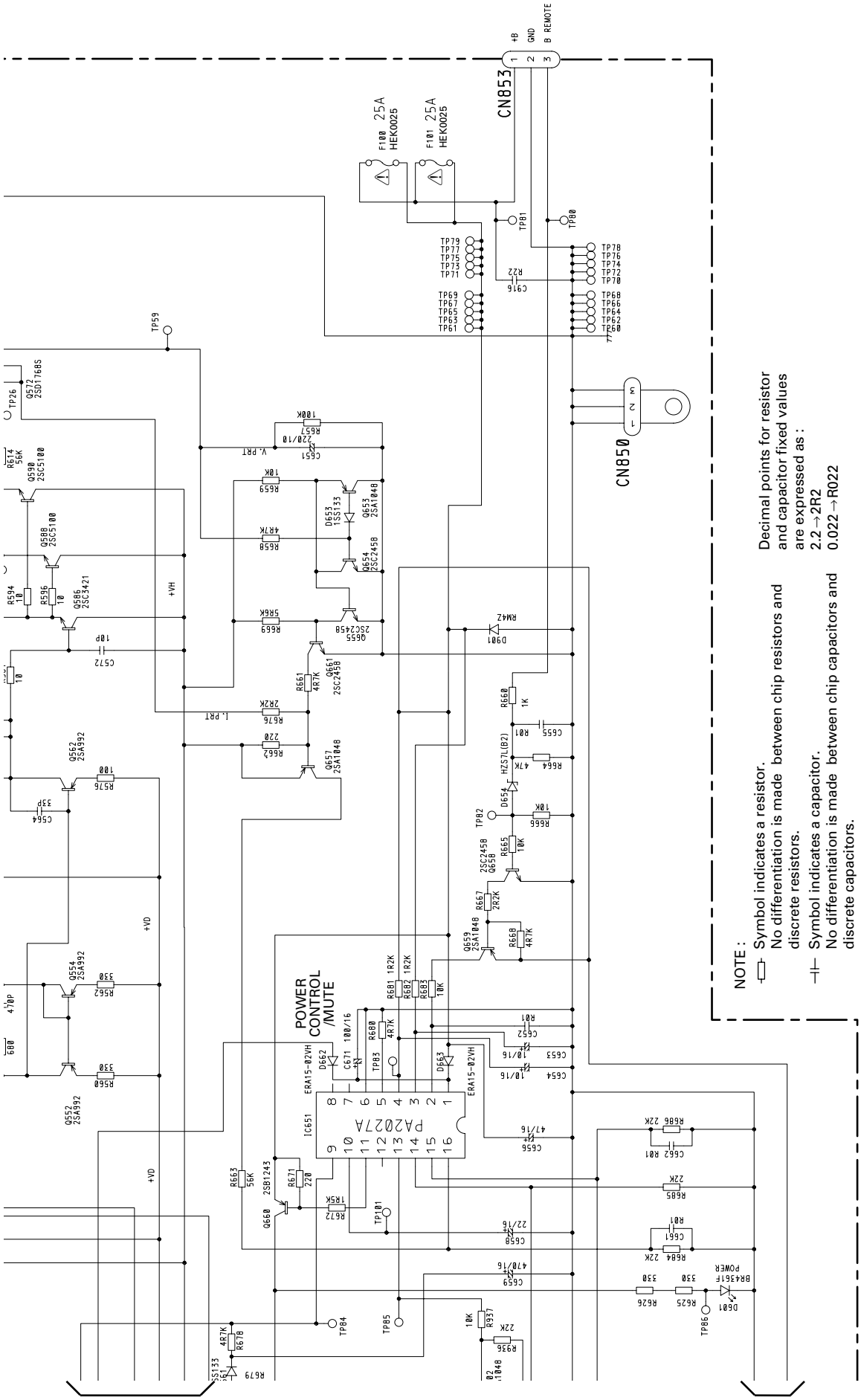
A


A-b
A-a
LPF SELECT
LOW PASS FILTER
80Hz-12dB/oct
LPF
BUFFER
DIFF. AMP
ISOLATOR
GAIN=1.5
R VALUE 1002~10.0K 0.5%
INPUT
Lch
Rch
RCA
CN851
MUTE
+15V
-15V


MUTE
PWM CONTROLLER
DC/DC CONVERTER
±35V REGULATOR
±15V REGULATOR
BFC
f=1/(0.817RC+0.00000142)
UPC494C
STP55NE06FP
2SD1919
2SB1277
2SA1048
DTA124ES
FML22S
FML22R
HZS16L(1)
1SS133
+VD
-VD
+VH
-VH

A-b
A-a


A AMP UNIT
L+
L-
CN855
R+
R-
CN854
POWER AMP
AMP FILTER GAIN
=10.73dB-40.97dB
OVER CURRENT
DETECTOR
GAIN ADJUST
GAIN ADJUST
+VH
-VH
+VD
-VD
+VH
A-a
A-b


CN853
+B
GND
B REMOTE
CN850
F100 25A HEK0025
F101 25A HEK0025
POWER CONTROL /MUTE
IC651 PA2027A
NOTE :
Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.
Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part.
Therefore, when replacing, be sure to use parts of identical designation.
Decimal points for resistor and capacitor fixed values are expressed as :
2.2→2R2
0.022→R022

A-a A-b

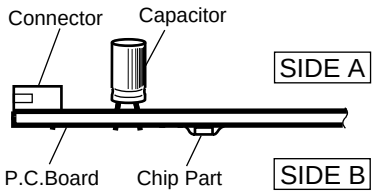
4. PCB CONNECTION DIAGRAM

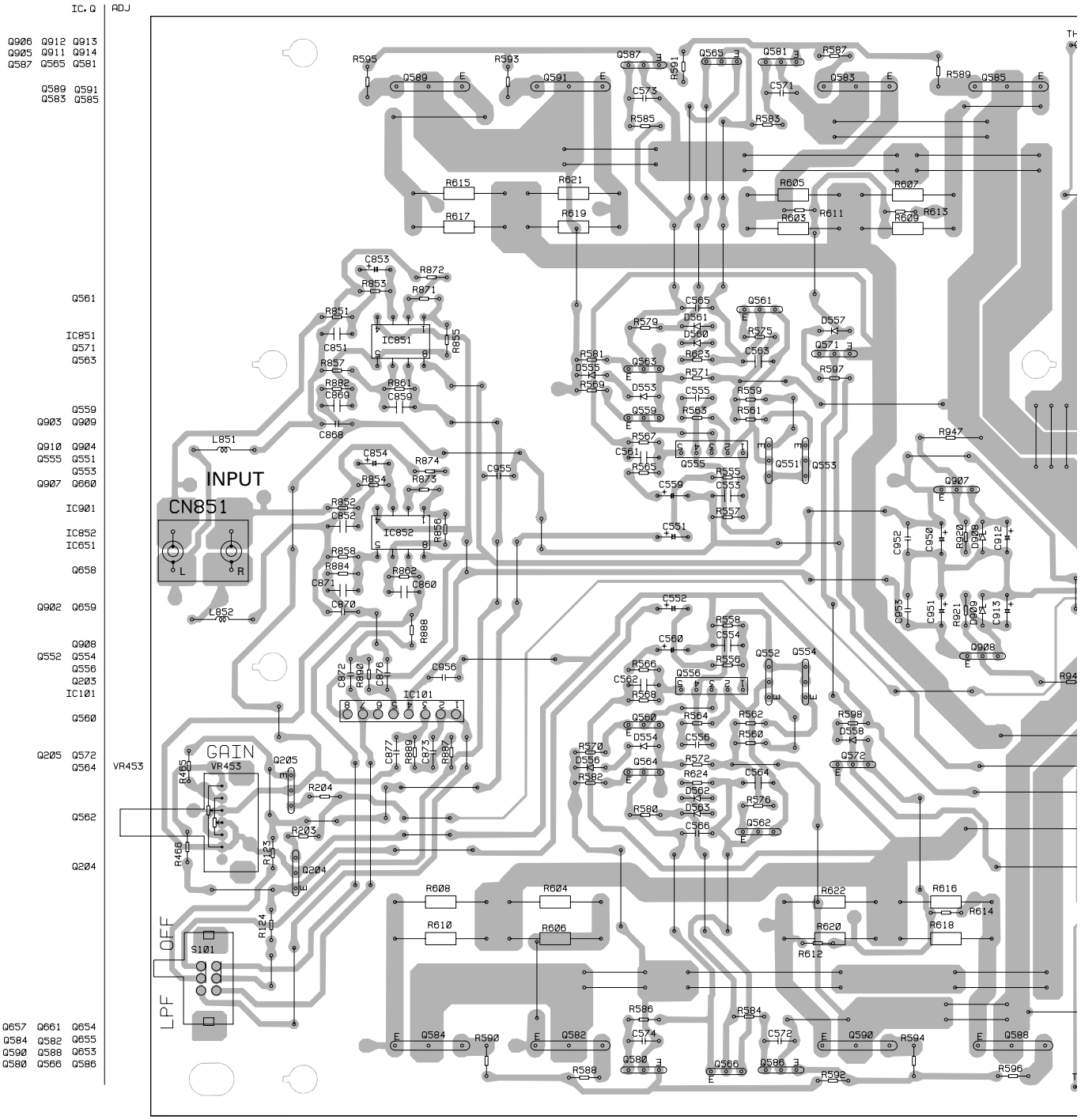
4.1 AMP UNIT

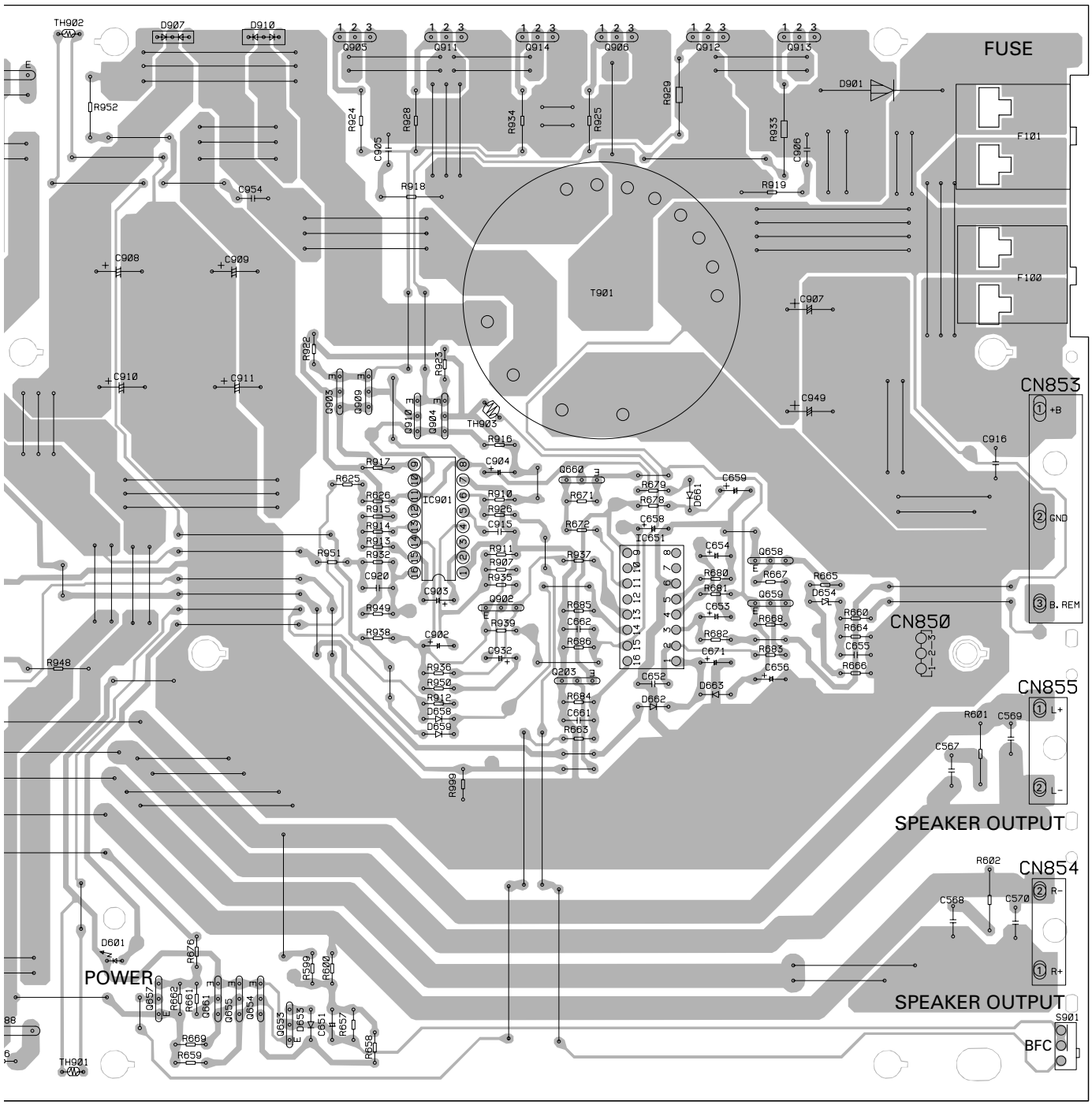
A AMP UNIT

NOTE FOR PCB DIAGRAMS

1. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respective destinations, be sure to check with the schematic diagram.
2. Viewpoint of PCB diagrams






FUSE
CN853
+B
GND
B. REM
CN850
CN855
L+
L-
SPEAKER OUTPUT
CN854
R-
R+
SPEAKER OUTPUT
POWER
BFC
T901
IC901
IC651
TH902
TH903
TH901
D907
D910
D901
D601
F101
F100
S901

5. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/○S○○○J,RS1/○○S○○○J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

A Unit Number : HWH0169(GM-X962/XR/UC)
: HWH0171(GM-X962/XR/ES)
: HWH0182(GM-X862/XR/UC)

Unit Name : Amp Unit

MISCELLANEOUS

=====Circuit Symbol and No.		===Part Name	Part No.
IC	101	IC	NJM4558L
IC	651	IC	PA2027A
IC	851	IC	NJM2068D
IC	852	IC	NJM2068D
IC	901	IC	UPC494C
Q	203	Transistor	DTA124ES
Q	204	Transistor	2SC2458
Q	205	Transistor	2SC2458
Q	551	Transistor	2SA992
Q	552	Transistor	2SA992
Q	553	Transistor	2SA992
Q	554	Transistor	2SA992
Q	555	Transistor	2SC5168
Q	556	Transistor	2SC5168
Q	559	Transistor	2SC1845
Q	560	Transistor	2SC1845
Q	561	Transistor	2SA992
Q	562	Transistor	2SA992
Q	563	Transistor	2SC1845
Q	564	Transistor	2SC1845
Q	565	Transistor	2SC1845
Q	566	Transistor	2SC1845
Q	571	Transistor	2SD1768S
Q	572	Transistor	2SD1768S
Q	580	Transistor	2SA1358
Q	581	Transistor	2SC3421
Q	582	Transistor	2SA1908
Q	583	Transistor	2SC5100
Q	584	Transistor	2SA1908
Q	585	Transistor	2SC5100
Q	586	Transistor	2SC3421
Q	587	Transistor	2SA1358
Q	588	Transistor	2SC5100
Q	589	Transistor	2SA1908
Q	590	Transistor	2SC5100
Q	591	Transistor	2SA1908
Q	653	Transistor	2SA1048
Q	654	Transistor	2SC2458
Q	655	Transistor	2SC2458
Q	657	Transistor	2SA1048
Q	658	Transistor	2SC2458
Q	659	Transistor	2SA1048
Q	660	Transistor	2SB1243
Q	661	Transistor	2SC2458
Q	902	Transistor	2SA1048

=====Circuit Symbol and No.		===Part Name	Part No.
Q	903	Transistor	2SB1277
Q	904	Transistor	2SB1277
Q	905	FET	STP55NE06FP
Q	906	FET	STP55NE06FP
Q	907	Transistor	2SD1864
Q	908	Transistor	2SB1243
Q	909	Transistor	2SD1919
Q	910	Transistor	2SD1919
Q	911	FET	STP55NE06FP
Q	912	FET	STP55NE06FP
Q	913	FET	STP55NE06FP
Q	914	FET	STP55NE06FP
D	553	Diode	1SS133
D	554	Diode	1SS133
D	555	Diode	1SS133
D	556	Diode	1SS133
D	557	Diode	1SS133
D	558	Diode	1SS133
D	560	Diode	1SS133
D	561	Diode	1SS133
D	562	Diode	1SS133
D	563	Diode	1SS133
D	601	LED	BR4361F
D	653	Diode	1SS133
D	654	Diode	HZS7L(B2)
D	658	Diode	1SS133
D	659	Diode	1SS133
D	661	Diode	1SS133
D	662	Diode	ERA15-02VH
D	663	Diode	ERA15-02VH
D	901	Diode	RM4Z
D	907	Diode	FML22S
D	908	Diode	HZS16L(1)
D	909	Diode	HZS16L(1)
D	910	Diode	FML22R
L	851	Ferri-Inductor	CTF1007
L	852	Ferri-Inductor	CTF1007
T	901	Transformer	HTT0021
TH	901	Thermistor	CCX1013
TH	902	Thermistor	CCX1013
TH	903	Thermistor	CCX1035
S	101	Switch(LPF/OFF)	CSH1021
S	901	Switch(BFC)(GM-X962/XR/ES)	HSH-156
VR	453	Volume 10kΩ(A)	CCS1241
F	100	Fuse 25A	HEK0025
F	101	Fuse 25A	HEK0025

RESISTORS

R	123		RD1/4PU222J
R	124		RD1/4PU222J
R	203		RD1/4PU472J
R	204		RD1/4PU472J
R	465		RD1/4PU470J

=====Circuit Symbol and No.		===Part Name	Part No.
R	466		RD1/4PU470J
R	555		RD1/4PU103J
R	556		RD1/4PU103J
R	557		RD1/4PU433J
R	558		RD1/4PU433J
R	559		RD1/4PU331J
R	560		RD1/4PU331J
R	561		RD1/4PU331J
R	562		RD1/4PU331J
R	563		RD1/4PU681J
R	564		RD1/4PU681J
R	565		RD1/4PU361J
R	566		RD1/4PU361J
R	567		RD1/4PU433J
R	568		RD1/4PU433J
R	569		RD1/4PU681J
R	570		RD1/4PU681J
R	571		RD1/4PU223J
R	572		RD1/4PU223J
R	575		RD1/4PU101J
R	576		RD1/4PU101J
R	579		RD1/4PU681J
R	580		RD1/4PU681J
R	581		RD1/4PU181J
R	582		RD1/4PU181J
R	583		RD1/4PU100J
R	584		RD1/4PU100J
R	585		RD1/4PU100J
R	586		RD1/4PU100J
R	587		RD1/4PU100J
R	588		RD1/4PU100J
R	589		RD1/4PU100J
R	590		RD1/4PU100J
R	591		RD1/4PU221J
R	592		RD1/4PU221J
R	593		RD1/4PU100J
R	594		RD1/4PU100J
R	595		RD1/4PU100J
R	596		RD1/4PU100J
R	597		RD1/4PU564J
R	598		RD1/4PU564J
R	599		RD1/4PU473J
R	600		RD1/4PU473J
R	601		RS1/2PMF100J
R	602		RS1/2PMF100J
R	603	0.22Ω	HCN0001
R	604	0.22Ω	HCN0001
R	605	0.22Ω	HCN0001
R	606	0.22Ω	HCN0001
R	607	0.22Ω	HCN0001
R	608	0.22Ω	HCN0001
R	609	0.22Ω	HCN0001
R	610	0.22Ω	HCN0001
R	611		RD1/4PU563J
R	612		RD1/4PU563J
R	613		RD1/4PU563J
R	614		RD1/4PU563J
R	615	0.22Ω	HCN0001
R	616	0.22Ω	HCN0001
R	617	0.22Ω	HCN0001
R	618	0.22Ω	HCN0001
R	619	0.22Ω	HCN0001
R	620	0.22Ω	HCN0001
R	621	0.22Ω	HCN0001
R	622	0.22Ω	HCN0001

=====Circuit Symbol and No.		===Part Name	Part No.
R	623		RD1/4PU561J
R	624		RD1/4PU561J
R	625		RD1/4PU331J
R	626		RD1/4PU331J
R	657		RD1/4PU104J
R	658		RD1/4PU472J
R	659		RD1/4PU103J
R	660		RD1/4PU102J
R	661		RD1/4PU472J
R	662		RD1/4PU221J
R	663		RD1/4PU563J
R	664		RD1/4PU473J
R	665		RD1/4PU103J
R	666		RD1/4PU103J
R	667		RD1/4PU222J
R	668		RD1/4PU472J
R	669		RD1/4PU562J
R	671		RD1/4PU221J
R	672		RD1/4PU152J
R	676		RD1/4PU222J
R	678		RD1/4PU472J
R	679		RD1/4PU101J
R	680		RD1/4PU472J
R	681		RD1/4PU122J
R	682		RD1/4PU122J
R	683		RD1/4PU103J
R	684		RD1/4PU223J
R	685		RD1/4PU223J
R	686		RD1/4PU223J
R	851		RD1/4PU471J
R	852		RD1/4PU471J
R	853		RD1/4PU223J
R	854		RD1/4PU223J
R	855		RN1/4PC1002D
R	856		RN1/4PC1002D
R	857		RN1/4PC1002D
R	858		RN1/4PC1002D
R	861		RN1/4PC1002D
R	862		RN1/4PC1002D
R	871		RD1/4PU102J
R	872		RD1/4PU202J
R	873		RD1/4PU102J
R	874		RD1/4PU202J
R	882		RN1/4PC1002D
R	884		RN1/4PC1002D
R	887		RD1/4PU103J
R	888		RD1/4PU103J
R	889		RD1/4PU103J
R	890		RD1/4PU103J
R	907		RD1/4PU473J
R	910		RD1/4PU153J
R	911		RD1/4PU102J
R	912		RD1/4PU272J
R	913		RD1/4PU472J
R	914		RD1/4PU472J
R	915		RD1/4PU472J
R	916		RD1/4PU332J
R	917		RD1/4PU332J
R	918		RS1/2PMF220J
R	919		RS1/2PMF220J
R	920		RD1/4PU472J
R	921		RD1/4PU472J
R	922		RD1/4PU472J
R	923		RD1/4PU472J
R	924		RS1/2PMF121J

=====Circuit Symbol and No.		===Part Name	Part No.
R	925		RS1/2PMF121J
R	926	(GM-X962/XR/ES)	RD1/4PU105J
R	928		RS1/2PMF121J
R	929		RS1/2PMF121J
R	932		RD1/4PU104J
R	933		RS1/2PMF121J
R	934		RS1/2PMF121J
R	935		RD1/4PU202J
R	936		RD1/4PU223J
R	937		RD1/4PU103J
R	938		RD1/4PU272J
R	939		RD1/4PU272J
R	947		RS1/2PMF560J
R	948		RS1/2PMF560J
R	949		RD1/4PU113J
R	950		RD1/4PU101J
R	951		RD1/4PU513J
R	952		RS1/2PMF220J
R	999		RD1/4PU103J

CAPACITORS

C	551		CEAT100M16
C	552		CEAT100M16
C	553		CCCCH680J100
C	554		CCCCH680J100
C	555		CQMA471J50
C	556		CQMA471J50
C	559		CEAT221M10
C	560		CEAT221M10
C	561		CCPUCH150J50
C	562		CCPUCH150J50
C	563		CCCCH330J100
C	564		CCCCH330J100
C	565		CFTLA223J50
C	566		CFTLA223J50
C	567		CFTNA333J50
C	568		CFTNA333J50
C	569		CQMA102J50
C	570		CQMA102J50
C	571		CCCCH100J100
C	572		CCCCH100J100
C	573		CCCCH100J100
C	574		CCCCH100J100
C	651	220µF/10V	HCH0012
C	652		CFTLA103J50
C	653		CEAT100M16
C	654		CEAT100M16
C	655		CFTLA103J50
C	656		CEAT470M16
C	658		CEAT220M16
C	659		CEAT471M16

=====Circuit Symbol and No.		===Part Name	Part No.
C	661		CFTLA103J50
C	662		CFTLA103J50
C	671		CEAT101M16
C	851		CKPUYB471K50
C	852		CKPUYB471K50
C	853		CEAT100M16
C	854		CEAT100M16
C	859		CCPUSL470J50
C	860		CCPUSL470J50
C	868		CFTLA223J50
C	869		CCPUSL470J50
C	870		CFTLA223J50
C	871		CCPUSL470J50
C	872		CFTNA274J50
C	873		CFTNA274J50
C	876		CFTNA154J50
C	877		CFTNA154J50
C	902		CEAT221M10
C	903		CEAT2R2M50
C	904		CEAT101M16
C	905		CQMA472J50
C	906		CQMA472J50
C	907	3300µF/16V	HCH0005
C	908	2200µF/50V	HCH0007
C	909	2200µF/50V	HCH0007
C	910	2200µF/50V	HCH0007
C	911	2200µF/50V	HCH0007
C	912		CEAT470M16
C	913		CEAT470M16
C	915		CQMA102J50
C	916		CFTNA224J50
C	920		CFTNA564J50
C	932		CEAT470M16
C	949	3300µF/16V	HCH0005
C	950		CEAT470M16
C	951		CEAT470M16
C	952		CQMA102J50
C	953		CQMA102J50
C	954		CQMA102J50
C	955		CFTLA103J50
C	956		CFTLA103J50

6. ADJUSTMENT

There is no information to be shown in this chapter.

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 DISASSEMBLY

● **Removing the Case and the Panel (Fig.1)**

1. Remove the six screws.
2. Remove the two screws.
3. Remove the three screws and then remove the Case.
4. Remove the six screws and then remove the Panel.

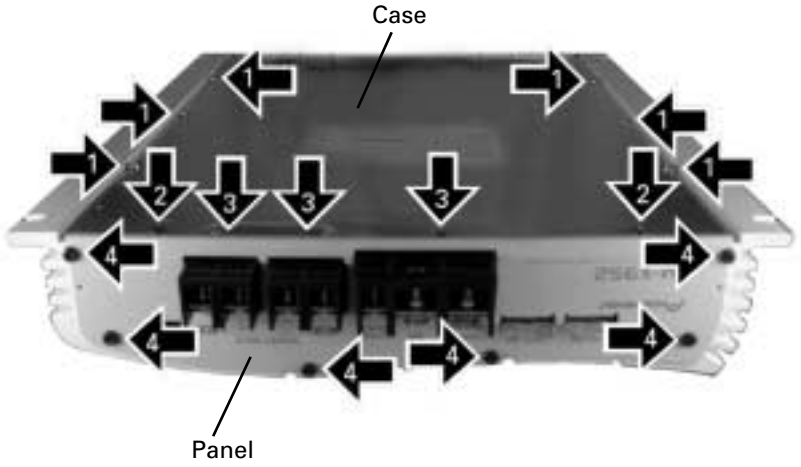


Fig.1

● **Removing the Amp Unit (Fig.2)**

1. Remove the twenty screws.
2. Remove the screw.
3. Remove the twelve screws and then remove the Amp Unit.

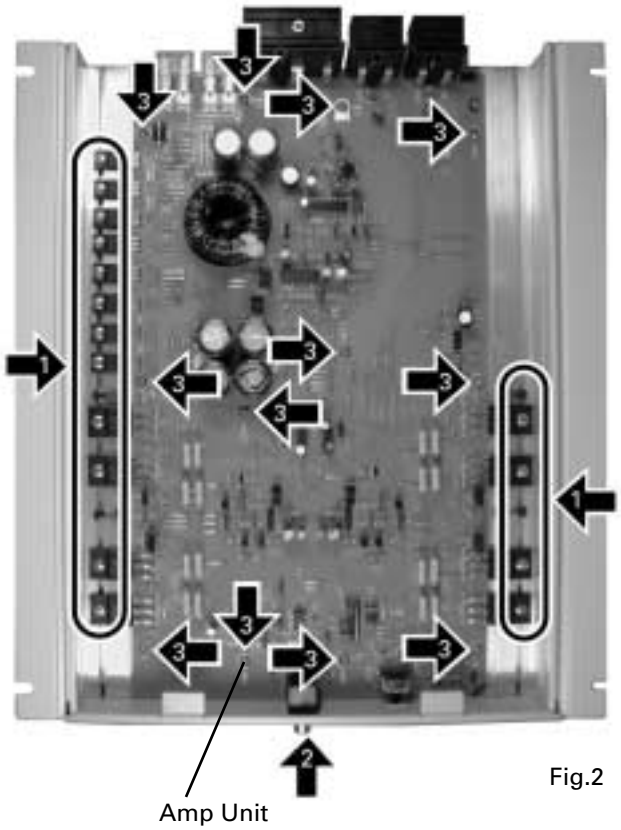
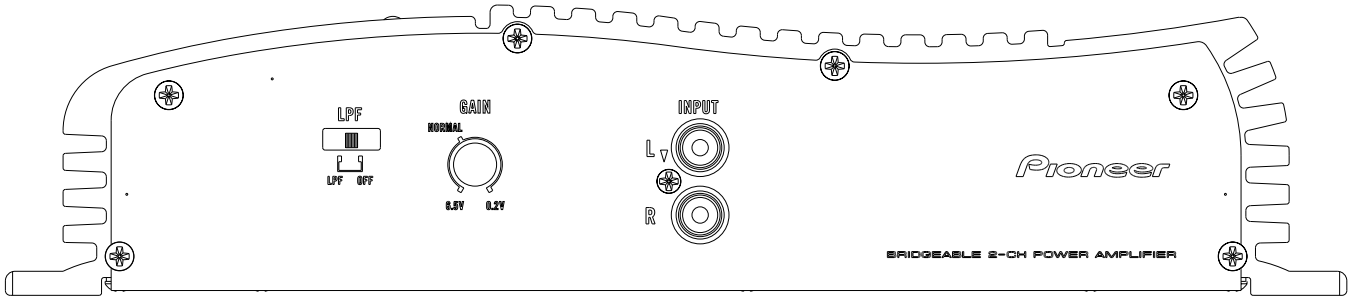
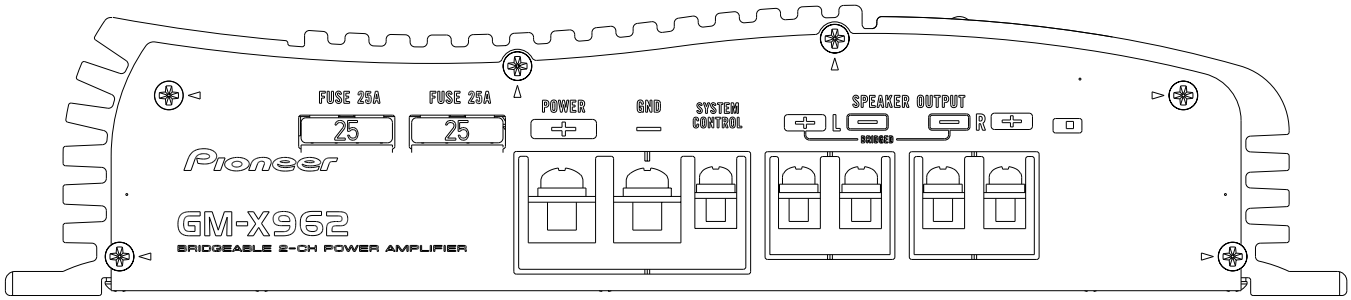


Fig.2

7.1.2 CONNECTOR FUNCTION DESCRIPTION

● **GM-X962/XR/ES**





Setting the Unit

Gain Control

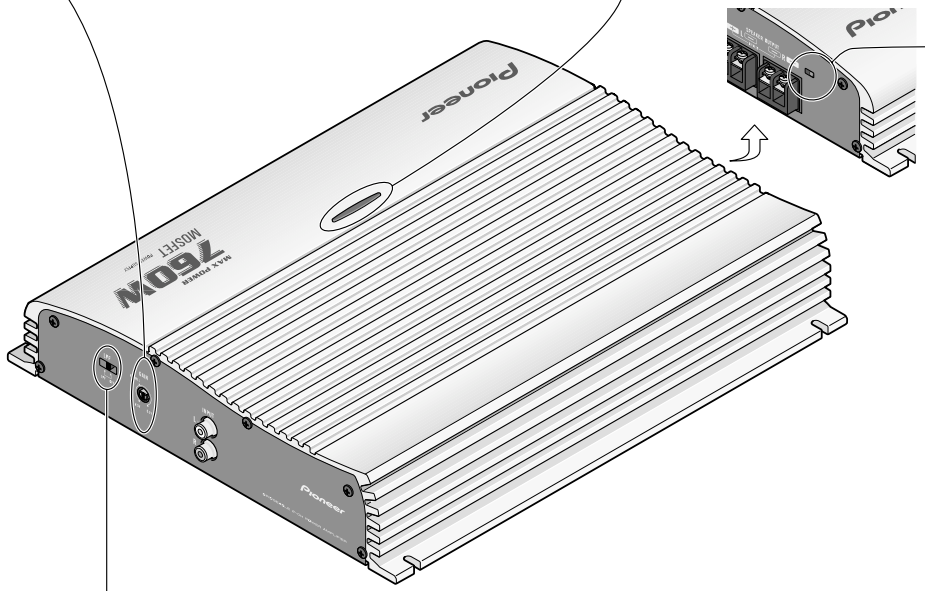
If the sound level is too low, even when the volume of the car stereo used along with this power amplifier is turned up, turn gain control on the front of the power amplifier clockwise. If the sound distorts when the volume is turned up, turn the gain control counter-clockwise.

- When using with an RCA equipped car stereo (standard output of 500 mV), set to the NORMAL position. When using with an RCA equipped Pioneer car stereo with max. output of 4 V or more, adjust level to match the car stereo output level.

Power Indicator

The power indicator lights when the power is switched on.

GM-X962/XR/ES



BFC (Beat Frequency Control) Switch

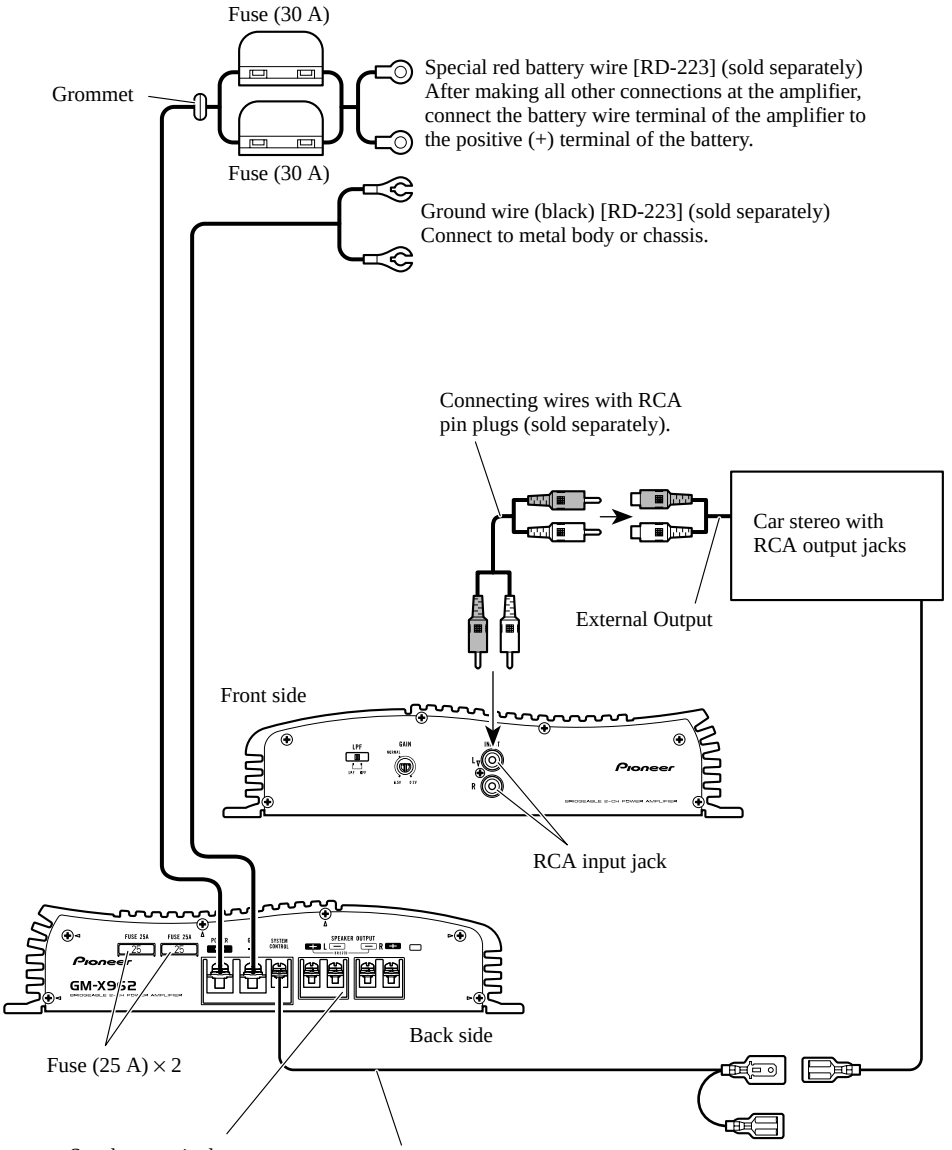
If you hear a beat while listening to an AM broadcast with your car stereo, change the BFC switch using a small standard tip screwdriver.

LPF (Low-Pass Filter) Select Switch

Set the LPF select switch as follows according to the type of speaker that is connected to the speaker output connector and the car stereo system:

LPF Select Switch	Audio frequency range to be output	Speaker Type	Remarks
LPF (left)	Very Low Frequency range	Subwoofer	Connect a subwoofer.
OFF (right)	Full range	Full range	

Connection Diagram


Fuse (30 A)
Grommet
Special red battery wire [RD-223] (sold separately)
After making all other connections at the amplifier, connect the battery wire terminal of the amplifier to the positive (+) terminal of the battery.
Fuse (30 A)
Ground wire (black) [RD-223] (sold separately)
Connect to metal body or chassis.
Connecting wires with RCA pin plugs (sold separately).
Car stereo with RCA output jacks
External Output
Front side
RCA input jack
Fuse (25 A) × 2
Back side
Speaker terminal
System remote control wire (sold separately)
Connect the male terminal of this wire to the system remote control terminal of the car stereo (SYSTEM REMOTE CONTROL). The female terminal can be connected to the auto-antenna relay control terminal. If the car stereo does not have a system remote control terminal, connect the male terminal to the power terminal through the ignition switch.

8.2 SPECIFICATIONS

● GM-X962/XR/UC

Power source	14.4 V DC (10.8 — 15.1 V allowable)
Grounding system	Negative type
Current consumption	25.0 A (at continuous power, 4 Ω)
Average current drawn*	9.6 A (4 Ω for two channels)
	17.3 A (4 Ω for one channel)
Fuse	25 A × 2
Dimensions	279 (W) × 61 (H) × 324 (D) mm
	[11 (W) × 2-3/8 (H) × 12-3/4 (D) in]
Weight	5.0 kg (11.0 lbs) (Leads for wiring not included)
Maximum power output	250 W × 2 / 760 W × 1
Continuous power output	125 W × 2 (at 14.4 V, 4 Ω, 20 — 20,000 Hz, 0.08% THD)
	380 W × 1 (at 14.4 V, 4 Ω, 20 — 20,000 Hz, 0.8% THD)
	190 W × 2 (at 14.4 V, 2 Ω, 20 — 20,000 Hz, 0.8% THD)
Load impedance	4 Ω (2 — 8 Ω allowable)
	(Bridge connection: 4 — 8 Ω allowable)
Frequency response	10 — 50,000 Hz (+0 dB, –1 dB)
Signal-to-noise ratio	100 dB (IHF–A network)
Distortion	0.008% (10 W, 1 kHz)
Separation	65 dB (1 kHz)
Low pass filter	Cut off frequency: 80 Hz
	Cut off slope: –12 dB/oct
Maximum input level/impedance	RCA: 6.5 V/22 kΩ (0.2 — 6.5 V)

Note:
- Specifications and the design are subject to possible modification without notice due to improvements.

***Average current drawn**
- The average current drawn is nearly the maximum current drawn by this unit when an audio signal is input. Use this value when working out total current drawn by multiple power amplifiers.

● GM-X962/XR/ES

Power source	14.4 V DC (10.8 — 15.1 V allowable)
Grounding system	Negative type
Current consumption	25.0 A (at continuous power, 4 Ω)
Average current drawn*	9.6 A (4 Ω for two channels)
	17.3 A (4 Ω for one channel)
Fuse	25 A × 2
Dimensions	279 (W) × 61 (H) × 324 (D) mm
Weight	5.0 kg (Leads for wiring not included)
Maximum power output	250 W × 2 / 760 W × 1
Continuous power output	125 W × 2 (at 14.4 V, 4 Ω, 20 — 20,000 Hz, 0.08% THD)
	380 W × 1 (at 14.4 V, 4 Ω, 20 — 20,000 Hz, 0.8% THD)
	190 W × 2 (at 14.4 V, 2 Ω, 20 — 20,000 Hz, 0.8% THD)
Load impedance	4 Ω (2 — 8 Ω allowable)
	(Bridge connection: 4 — 8 Ω allowable)
Frequency response	10 — 50,000 Hz (+0 dB, –1 dB)
Signal-to-noise ratio	100 dB (IEC-A network)
Distortion	0.008% (10 W, 1 kHz)
Separation	65 dB (1 kHz)
Low pass filter	Cut off frequency: 80 Hz
	Cut off slope: –12 dB/oct
Maximum input level/impedance	RCA: 6.5 V/22 kΩ (0.2 — 6.5 V)

Note:
- Specifications and the design are subject to possible modification without notice due to improvements.

***Average current drawn**
- The average current drawn is nearly the maximum current drawn by this unit when an audio signal is input. Use this value when working out total current drawn by multiple power amplifiers.

● GM-X862/XR/UC

Power source	14.4 V DC (10.8 — 15.1 V allowable)
Grounding system	Negative type
Current consumption	25.0 A (at continuous power, 4 Ω)
Average current drawn*	9.6 A (4 Ω for two channels)
	17.3 A (4 Ω for one channel)
Fuse	25 A × 2
Dimensions	279 (W) × 61 (H) × 324 (D) mm
	[11 (W) × 2-3/8 (H) × 12-3/4 (D) in]
Weight	5.0 kg (11.0 lbs) (Leads for wiring not included)
Maximum power output	250 W × 2 / 760 W × 1
Continuous power output	125 W × 2 (at 14.4 V, 4 Ω, 20 — 20,000 Hz, 0.08% THD)
	380 W × 1 (at 14.4 V, 4 Ω, 20 — 20,000 Hz, 0.8% THD)
	190 W × 2 (at 14.4 V, 2 Ω, 20 — 20,000 Hz, 0.8% THD)
Load impedance	4 Ω (2 — 8 Ω allowable)
	(Bridge connection: 4 — 8 Ω allowable)
Frequency response	10 — 50,000 Hz (+0 dB, –1 dB)
Signal-to-noise ratio	100 dB (IHF–A network)
Distortion	0.008% (10 W, 1 kHz)
Separation	65 dB (1 kHz)
Low pass filter	Cut off frequency: 80 Hz
	Cut off slope: –12 dB/oct
Maximum input level/impedance	RCA: 6.5 V/22 kΩ (0.2 — 6.5 V)

Note:

- Specifications and the design are subject to possible modification without notice due to improvements.

***Average current drawn**

- The average current drawn is nearly the maximum current drawn by this unit when an audio signal is input. Use this value when working out total current drawn by multiple power amplifiers.